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<120> Protein Tyrosine Kinase Receptor Polynucleotides, Polypeptides, and Antibodies

<130> PT020P1

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<150> PCT/US00/28066

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<150> 60/159,542

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<150> 60/165,914

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<212> PRT
<213> Homo sapiens
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Ile	Gly	Ala	Phe	Gly	Glu	Val	Cys	Leu	Ala	Cys	Lys	Val	Asp	Thr	His
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Asn	Gln	Val	Ala	His	Val	Lys	Ala	Glu	Arg	Asp	Ile	Leu	Ala	Glu	Ala
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Asp	Asn	Glu	Trp	Val	Val	Lys	Leu	Tyr	Tyr	Ser	Phe	Gln	Asp	Lys	Asp
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Ser	Leu	Tyr	Phe	Val	Met	Asp	Tyr	Ile	Pro	Gly	Gly	Asp	Met	Met	Ser
			100					105					110		
Leu	Leu	Ile	Arg	Met	Glu	Val	Phe	Pro	Glu	His	Leu	Ala	Arg	Phe	Tyr
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Ile	Ala	Glu	Leu	Thr	Leu	Ala	Ile	Glu	Ser	Val	His	Lys	Met	Gly	Phe

11

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			20					25					30			
Leu	Pro	Val	Glu	Met	Ala	Arg	Met	Tyr	Phe	Ala	Glu	Thr	Val	Leu	Ala	
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Leu	Glu	Tyr	Leu	His	Asn	Tyr	Gly	Ile	Val	His	Arg	Asp	Leu	Lys	Pro	
	50					55					60					
Asp	Asn	Leu	Leu	Ile	Thr	Ser	Met	Gly	His	Ile	Lys	Leu	Thr	Asp	Phe	
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Gly	Leu	Ser	Lys	Met	Gly	Leu	Met	Ser	Leu	Thr	Thr	Asn	Leu	Tyr	Glu	
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Gly	His	Ile	Glu	Lys	Asp	Ala	Arg	Glu	Phe	Leu	Asp	Lys	Gln	Val	Cys	
			100					105					110			
Gly	Thr	Pro	Glu	Tyr	Ile	Ala	Pro	Glu	Val	Ile	Leu	Arg	Gln	Gly	Tyr	
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Leu	Pro	Thr	Glu	Ala	Gln	Leu	Leu	Ile	Ser	Ser	Leu	Leu	Gln	Thr	Asn	
			180					185					190			
Pro	Leu	Val	Arg	Leu	Gly	Ala	Gly	Gly	Ala	Phe	Glu	Val	Lys	Gln	His	
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Ser	Phe	Phe	Arg	Asp	Leu	Asp	Trp	Thr	Gly	Leu	Leu	Arg	Gln	Lys	Ala	
	210					215					220					
Glu	Phe	Ile	Pro	His	Leu	Glu	Ser	Glu	Asp	Asp	Thr	Ser	Tyr	Phe	Asp	
225					230				235						240	
Thr	Arg	Ser	Asp	Arg	Tyr	His	His	Val	Asn	Ser	Tyr	Asp	Glu	Asp	Asp	
				245					250					255		
Thr	Thr	Glu	Glu	Glu	Pro	Val	Glu	Ile	Arg	Gln	Phe	Ser	Ser	Cys	Ser	
			260					265					270			

Pro Arg Phe Ser Lys Val Tyr Ser Ser Met Glu Gln Leu Ser Gln His  
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 Glu Pro Lys Thr Pro Val Ala Ala Ala Gly Ser Ser Lys Arg Glu Pro  
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 Ser Thr Lys Gly Pro Glu Glu Lys Val Ala Gly Lys Arg Glu Gly Leu  
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 Gly Gly Leu Thr Leu Arg Glu Lys Thr Trp Arg Gly Gly Ser Pro Glu  
 325 330 335  
 Ile Lys Arg Phe Ser Ala Ser Glu Ala Ser Phe Leu Glu Gly Glu Ala  
 340 345 350  
 Ser Pro Pro Leu Gly Ala Arg Arg Arg Phe Ser Ala Leu Leu Glu Pro  
 355 360 365  
 Ser Arg Phe Ser Ala Pro Gln Glu Asp Glu Asp Glu Ala Arg Leu Arg  
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 Arg Pro Pro Arg Pro Ser Ser Asp Pro Ala Gly Ser Leu Asp Ala Arg  
 385 390 395 400  
 Ala Pro Lys Glu Glu Thr Gln Gly Glu Gly Thr Ser Ser Ala Gly Asp  
 405 410 415  
 Ser Glu Ala Thr Asp Arg Pro Arg Pro Gly Asp Leu Cys Pro Pro Ser  
 420 425 430  
 Lys Asp Gly Asp Ala Ser Gly Pro Arg Ala Thr Asn Asp Leu Val Leu  
 435 440 445  
 Arg Arg Ala Arg His Gln Gln Met Ser Gly Asp Val Ala Val Glu Lys  
 450 455 460  
 Arg Pro Ser Arg Thr Gly Gly Lys Val Ile Lys Ser Ala Ser Ala Thr  
 465 470 475 480  
 Ala Leu Ser Val Met Ile Pro Ala Val Asp Pro His Gly Ser Ser Pro  
 485 490 495  
 Leu Ala Ser Pro Met Ser Pro Arg Ser Leu Ser Ser Asn Pro Ser Ser  
 500 505 510  
 Arg Asp Ser Ser Pro Ser Arg Asp Tyr Ser Pro Ala Val Ser Gly Leu  
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 530 535 540  
 Leu Arg Ala Ile Arg Val Tyr Met Gly Asp Thr Asp Val Tyr Ser Val  
 545 550 555 560  
 His His Ile Val Trp His Val Glu Glu Gly Gly Pro Ala Gln Glu Ala  
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0369E350  
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Ile	Gly	Pro	Ala	Arg	Arg	Ser	Ser	Tyr	Lys	Ala	Lys	Met	Ala	Arg	Arg
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Arg	Ser	Leu	Ser	Ser	Leu	Asn	Arg	Ser	Leu	Ser	Ser	Ser	Asp	Ser	Leu
675						680						685			
Pro	Gly	Ser	Pro	Thr	His	Gly	Leu	Pro	Ala	Arg	Ser	Pro	Thr	His	Ser
690						695						700			
Tyr	Arg	Ser	Thr	Pro	Asp	Ser	Ala	Tyr	Leu	Gly	Ala	Ser	Ser	Gln	Ser
705						710						715			
Ser	Ser	Pro	Ala	Ser	Ser	Thr	Pro	Asn	Ser	Pro	Ala	Ser	Ser	Ala	Ser
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His	His	Ile	Arg	Pro	Ser	Thr	Leu	His	Gly	Leu	Ser	Pro	Lys	Leu	His
			740						745						
Arg	Gln	Tyr	Arg	Ser	Ala	Arg	Cys	Lys	Ser	Ala	Gly	Asn	Ile	Pro	Leu
755						760						765			
Ser	Pro	Leu	Ala	His	Thr	Pro	Ser	Pro	Thr	Gln	Ala	Ser	Pro	Pro	Pro
770						775						780			
Leu	Pro	Gly	His	Thr	Val	Gly	Ser	Ser	His	Thr	Thr	Gln	Ser	Phe	Pro
785						790						795			
Ala	Lys	Leu	His	Ser	Ser	Pro	Pro	Val	Val	Arg	Pro	Arg	Pro	Lys	Ser
			805						810						
Ala	Glu	Pro	Pro	Arg	Ser	Pro	Leu	Leu	Lys	Arg	Val	Gln	Ser	Ala	Glu
			820						825						
Lys	Leu	Gly	Ala	Ser	Leu	Ser	Ala	Asp	Lys	Lys	Gly	Ala	Leu	Arg	Lys
835						840						845			
His	Ser	Leu	Glu	Val	Gly	His	Pro	Asp	Phe	Arg	Lys	Asp	Phe	His	Gly
850						855						860			
Glu	Leu	Ala	Leu	His	Ser	Leu	Ala	Glu	Ser	Asp	Gly	Glu	Thr	Pro	Pro
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Val	Glu	Gly	Leu	Gly	Ala	Pro	Arg	Gln	Val	Ala	Val	Arg	Arg	Leu	Gly

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Arg	Gln	Glu	Ser	Pro	Leu	Ser	Leu	Gly	Ala	Asp	Pro	Leu	Leu	Pro	Glu				
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Gly	Ala	Ser	Arg	Pro	Pro	Val	Ser	Ser	Lys	Glu	Lys	Glu	Ser	Pro	Gly				
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Gly	Ala	Glu	Ala	Cys	Thr	Pro	Pro	Arg	Ala	Thr	Thr	Pro	Gly	Gly	Arg				
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Thr	Leu	Glu	Arg	Asp	Val	Gly	Cys	Thr	Arg	His	Gln	Ser	Val	Gln	Thr				
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Glu	Asp	Gly	Thr	Gly	Gly	Met	Ala	Arg	Ala	Val	Ala	Lys	Ala	Ala	Leu				
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Ser	Pro	Val	Gln	Glu	His	Glu	Thr	Gly	Arg	Arg	Ser	Ser	Ser	Gly	Glu				
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Ala	Gly	Thr	Pro	Leu	Val	Pro	Ile	Val	Val	Glu	Pro	Ala	Arg	Pro	Gly				
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Ala	Lys	Ala	Val	Val	Pro	Gln	Pro	Leu	Gly	Ala	Asp	Ser	Lys	Gly	Leu				
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Gln	Glu	Pro	Ala	Pro	Leu	Ala	Pro	Ser	Val	Pro	Glu	Ala	Pro	Arg	Gly				
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Arg	Glu	Arg	Trp	Val	Leu	Glu	Val	Val	Glu	Glu	Arg	Thr	Thr	Leu	Ser				
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Thr	Pro	Ser	Leu	Ala	Pro	Ala	Lys	Cys	Ser	Ala	Pro	Ser	Ser	Ala	Val				
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	1090					1095					1100								
Val	Gly	Leu	Thr	Ser	Arg	Cys	Pro	Ala	Glu	Ala	Val	Pro	Pro	Ala	Gly				
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 <213> Homo sapiens

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Pro	Ile	Pro	Lys	Asp	Ser	Ser	Arg	Pro	Lys	Ala	Ser	Ser	Asp	Phe	Ile
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Asn	Leu	Leu	Asp	Gly	Leu	Leu	Gln	Arg	Asp	Pro	Gln	Lys	Arg	Leu	Thr
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Trp	Thr	Arg	Leu	Leu	Gln	His	Ser	Phe	Trp	Lys	Lys	Ala	Phe	Ala	Gly
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Ala	Asp	Gln	Glu	Ser	Ser	Val	Glu	Asp	Leu	Ser	Leu	Ser	Arg	Asn	Thr
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Met	Glu	Cys	Ser	Gly	Pro	Gln	Asp	Ser	Lys	Glu	Leu	Leu	Gln	Asn	Ser
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Gln	Ser	Arg	Gln	Ala	Lys	Gly	His	Lys	Ser	Gly	Gln	Pro	Leu	Gly	His
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Ser	Phe	Arg	Leu	Glu	Asn	Pro	Thr	Glu	Phe	Arg	Pro	Lys	Gly	Thr	Leu
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Glu	Gly	Gln	Leu	Asn	Glu	Ser	Met	Phe	Leu	Leu	Ser	Ser	Arg	Pro	Thr
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Pro	Arg	Thr	Ser	Thr	Ala	Val	Glu	Val	Ser	Pro	Gly	Glu	Asp	Met	Thr
		195					200					205			
His	Cys	Ser	Pro	Gln	Lys	Thr	Ser	Pro	Leu	Thr	Lys	Ile	Thr	Ser	Gly
	210					215					220				
His	Leu	Ser	Gln	Gln	Asp	Leu	Glu	Ser	Gln	Met	Arg	Glu	Leu	Ile	Tyr
225					230					235					240
Thr	Asp	Ser	Asp	Leu	Val	Val	Thr	Pro	Ile	Ile	Asp	Asn	Pro	Lys	Ile
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Met	Lys	Gln	Pro	Pro	Val	Lys	Phe	Asp	Ala	Lys	Ile	Leu	His	Leu	Pro
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Thr	Tyr	Ser	Val	Asp	Lys	Leu	Leu	Phe	Leu	Lys	Asp	Gln	Asp	Trp	Asn
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Asp	Phe	Leu	Gln	Gln	Val	Cys	Ser	Gln	Ile	Asp	Ser	Thr	Glu	Lys	Ser
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Met	Gly	Ala	Ser	Arg	Ala	Lys	Leu	Asn	Leu	Leu	Cys	Tyr	Leu	Cys	Val
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Val	Ala	Gly	His	Gln	Glu	Val	Ala	Thr	Arg	Leu	Leu	His	Ser	Pro	Leu
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Gln Leu Phe Ser  
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<210> 18
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<212> PRT
<213> Homo sapiens
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Glu Gly Val His Tyr Leu His Ser Asn Met Ile Val His Arg Asp Ile  
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Lys Gly Ala Asn Ile Leu Arg Asp Ser Thr Gly Asn Val Lys Leu Gly  
50 55 60

Asp Phe Gly Ala Ser Lys Arg Leu Gln Thr Ile Cys Leu Ser Gly Thr  
65 70 75 80

Gly Met Lys Ser Val Thr Gly Thr Pro Tyr Trp Met Ser Pro Glu Val  
85 90 95

Ile Ser Gly Glu Gly Tyr Gly Arg Lys Ala Asp Ile Trp Ser Val Ala  
100 105 110

Cys Thr Val Val Glu Met Leu Thr Glu Lys Pro Pro Trp Ala Glu Phe  
115 120 125

Glu Ala Met Ala Ala Ile Phe Lys Ile Ala Thr Gln Pro Thr Asn Pro  
130 135 140

Lys Leu Pro Pro His Val Ser Asp Tyr Thr Arg Asp Phe Leu Lys Arg  
145 150 155 160

Ile Phe Val Glu Ala Lys Leu Arg Pro Ser Ala Asp Glu Leu Leu Arg  
165 170 175

His Met Phe Val His Tyr His  
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<210> 19
<211> 806
<212> PRT
<213> Homo sapiens
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Phe	Ser	Ala	Asp	Ser	Lys	Gln	Asp	Asp	Gln	Thr	Gly	Asp	Leu	Ile	Lys				
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Ser	Asp	Pro	Ser	Gly	His	Leu	Thr	Gly	Met	Val	Gly	Thr	Ala	Leu	Tyr				
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Val	Ser	Pro	Glu	Val	Gln	Gly	Ser	Thr	Lys	Ser	Ala	Tyr	Asn	Gln	Lys				
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Val	Asp	Leu	Phe	Ser	Leu	Gly	Ile	Ile	Phe	Phe	Glu	Met	Ser	Tyr	His				
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Pro	Met	Val	Thr	Ala	Ser	Glu	Arg	Ile	Phe	Val	Leu	Asn	Gln	Leu	Arg				
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Asp	Pro	Thr	Ser	Pro	Lys	Phe	Pro	Glu	Asp	Phe	Asp	Asp	Gly	Glu	His				
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Ala	Lys	Gln	Lys	Ser	Val	Ile	Ser	Trp	Leu	Leu	Asn	His	Asp	Pro	Ala				
		130					135						140						
Lys	Arg	Pro	Thr	Ala	Thr	Glu	Leu	Leu	Lys	Ser	Glu	Leu	Leu	Pro	Pro				
		145					150						155			160			
Pro	Gln	Met	Glu	Glu	Ser	Glu	Leu	His	Glu	Val	Leu	His	His	Thr	Leu				
			165						170						175				
Thr	Asn	Val	Asp	Gly	Lys	Ala	Tyr	Arg	Thr	Met	Met	Ala	Gln	Ile	Phe				
			180						185						190				
Ser	Gln	Arg	Ile	Ser	Pro	Ala	Ile	Asp	Tyr	Thr	Tyr	Asp	Ser	Asp	Ile				
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Leu	Lys	Gly	Asn	Phe	Ser	Ile	Arg	Thr	Ala	Lys	Met	Gln	Gln	His	Val				
		210					215						220						
Cys	Glu	Thr	Ile	Ile	Arg	Ile	Phe	Lys	Arg	His	Gly	Ala	Val	Gln	Leu				
		225					230						235			240			
Cys	Thr	Pro	Leu	Leu	Leu	Pro	Arg	Asn	Arg	Gln	Ile	Tyr	Glu	His	Asn				
			245						250						255				
Glu	Ala	Ala	Leu	Phe	Met	Asp	His	Ser	Gly	Met	Leu	Val	Met	Leu	Pro				
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Phe	Asp	Leu	Arg	Ile	Pro	Phe	Ala	Arg	Tyr	Val	Ala	Arg	Asn	Asn	Ile				
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Leu	Asn	Leu	Lys	Arg	Tyr	Cys	Ile	Glu	Arg	Val	Phe	Arg	Pro	Arg	Lys				
		290					295						300						
Leu	Asp	Arg	Phe	His	Pro	Lys	Glu	Leu	Leu	Glu	Cys	Ala	Phe	Asp	Ile				
		305					310						315			320			

Val Thr Ser Thr Thr Asn Ser Phe Leu Pro Thr Ala Glu Ile Ile Tyr  
 325 330 335  
 Thr Ile Tyr Glu Ile Ile Gln Glu Phe Pro Ala Leu Gln Glu Arg Asn  
 340 345 350  
 Tyr Ser Ile Tyr Leu Asn His Thr Met Leu Leu Lys Ala Ile Leu Leu  
 355 360 365  
 His Cys Gly Ile Pro Glu Asp Lys Leu Ser Gln Val Tyr Ile Ile Leu  
 370 375 380  
 Tyr Asp Ala Val Thr Glu Lys Leu Thr Arg Arg Glu Val Glu Ala Lys  
 385 390 395 400  
 Phe Cys Asn Leu Ser Leu Ser Ser Asn Ser Leu Cys Arg Leu Tyr Lys  
 405 410 415  
 Phe Ile Glu Gln Lys Gly Asp Leu Gln Asp Leu Met Pro Thr Ile Asn  
 420 425 430  
 Ser Leu Ile Lys Gln Lys Thr Gly Ile Ala Gln Leu Val Lys Tyr Gly  
 435 440 445  
 Leu Lys Asp Leu Glu Glu Val Val Gly Leu Leu Lys Lys Leu Gly Ile  
 450 455 460  
 Lys Leu Gln Val Leu Ile Asn Leu Gly Leu Val Tyr Lys Val Gln Gln  
 465 470 475 480  
 His Asn Gly Ile Ile Phe Gln Phe Val Ala Phe Ile Lys Arg Arg Gln  
 485 490 495  
 Arg Ala Val Pro Glu Ile Leu Ala Ala Gly Gly Arg Tyr Asp Leu Leu  
 500 505 510  
 Ile Pro Gln Phe Arg Gly Pro Gln Ala Leu Gly Pro Val Pro Thr Ala  
 515 520 525  
 Ile Gly Val Ser Ile Ala Ile Asp Lys Ile Ser Ala Ala Val Leu Asn  
 530 535 540  
 Met Glu Glu Ser Val Thr Ile Ser Ser Cys Asp Leu Leu Val Val Ser  
 545 550 555 560  
 Val Gly Gln Met Ser Met Ser Arg Ala Ile Asn Leu Thr Gln Lys Leu  
 565 570 575  
 Trp Thr Ala Gly Ile Thr Ala Glu Ile Met Tyr Asp Trp Ser Gln Ser  
 580 585 590  
 Gln Glu Glu Leu Gln Glu Tyr Cys Arg His His Glu Ile Thr Tyr Val  
 595 600 605  
 Ala Leu Val Ser Asp Lys Glu Gly Ser His Val Lys Val Lys Ser Phe  
 610 615 620

Glu Lys Glu Arg Gln Thr Glu Lys Arg Val Leu Glu Thr Glu Leu Val  
 625 630 635 640  
 Asp His Val Leu Gln Lys Leu Arg Thr Lys Val Thr Asp Glu Arg Asn  
 645 650 655  
 Gly Arg Glu Ala Ser Asp Asn Leu Ala Val Gln Asn Leu Lys Gly Ser  
 660 665 670  
 Phe Ser Asn Ala Ser Gly Leu Phe Glu Ile His Gly Ala Thr Val Val  
 675 680 685  
 Pro Ile Val Ser Val Leu Ala Pro Glu Lys Leu Ser Ala Ser Thr Arg  
 690 695 700  
 Arg Arg Tyr Glu Thr Gln Val Gln Thr Arg Leu Gln Thr Ser Leu Ala  
 705 710 715 720  
 Asn Leu His Gln Lys Ser Ser Glu Ile Glu Ile Leu Ala Val Asp Leu  
 725 730 735  
 Pro Lys Glu Thr Ile Leu Gln Phe Leu Ser Leu Glu Trp Asp Ala Asp  
 740 745 750  
 Glu Gln Ala Phe Asn Thr Thr Val Lys Gln Leu Leu Ser Arg Leu Pro  
 755 760 765  
 Lys Gln Arg Tyr Leu Lys Leu Val Cys Asp Glu Ile Tyr Asn Ile Lys  
 770 775 780  
 Val Glu Lys Lys Val Ser Val Leu Phe Leu Tyr Ser Tyr Arg Asp Asp  
 785 790 795 800  
 Tyr Tyr Arg Ile Leu Phe  
 805

<210> 20  
 <211> 530  
 <212> PRT  
 <213> Homo sapiens

<400> 20  
 Met Glu Tyr Ala Ser Lys Gly Glu Leu Tyr Asp Tyr Ile Ser Glu Arg  
 1 5 10 15  
 Arg Arg Leu Ser Glu Arg Glu Thr Arg His Phe Phe Arg Gln Ile Val  
 20 25 30  
 Ser Ala Val His Tyr Cys His Lys Asn Gly Val Val His Arg Asp Leu  
 35 40 45  
 Lys Leu Glu Asn Ile Leu Leu Asp Asp Asn Cys Asn Ile Lys Ile Ala  
 50 55 60  
 Asp Phe Gly Leu Ser Asn Leu Tyr Gln Lys Asp Lys Phe Leu Gln Thr  
 65 70 75 80

Phe	Cys	Gly	Ser	Pro	Leu	Tyr	Ala	Ser	Pro	Glu	Ile	Val	Asn	Gly	Arg	
				85					90					95		
Pro	Tyr	Arg	Gly	Pro	Glu	Val	Asp	Ser	Trp	Ala	Leu	Gly	Val	Leu	Leu	
				100					105					110		
Tyr	Thr	Leu	Val	Tyr	Gly	Thr	Met	Pro	Phe	Asp	Gly	Phe	Asp	His	Lys	
				115					120					125		
Asn	Leu	Ile	Arg	Gln	Ile	Ser	Ser	Gly	Glu	Tyr	Arg	Glu	Pro	Thr	Gln	
				130					135					140		
Pro	Ser	Asp	Ala	Arg	Gly	Leu	Ile	Arg	Trp	Met	Leu	Met	Val	Asn	Pro	
				145					150					155		
Asp	Arg	Arg	Ala	Thr	Ile	Glu	Asp	Ile	Ala	Asn	His	Trp	Trp	Val	Asn	
				165					170					175		
Trp	Gly	Tyr	Lys	Ser	Ser	Val	Cys	Asp	Cys	Asp	Ala	Leu	His	Asp	Ser	
				180					185					190		
Glu	Ser	Pro	Leu	Leu	Ala	Arg	Ile	Ile	Asp	Trp	His	His	Arg	Ser	Thr	
				195					200					205		
Gly	Leu	Gln	Ala	Asp	Thr	Glu	Ala	Lys	Met	Lys	Gly	Leu	Ala	Lys	Pro	
				210					215					220		
Thr	Thr	Ser	Glu	Val	Met	Leu	Glu	Arg	Gln	Arg	Ser	Leu	Lys	Lys	Ser	
				225					230					235		
Lys	Lys	Glu	Asn	Asp	Phe	Ala	Gln	Ser	Gly	Gln	Asp	Ala	Val	Pro	Glu	
				245					250					255		
Ser	Pro	Ser	Lys	Leu	Ser	Ser	Lys	Arg	Pro	Lys	Gly	Ile	Leu	Lys	Lys	
				260					265					270		
Arg	Ser	Asn	Ser	Glu	His	Arg	Ser	His	Ser	Thr	Gly	Phe	Ile	Glu	Gly	
				275					280					285		
Val	Val	Gly	Pro	Ala	Leu	Pro	Ser	Thr	Phe	Lys	Met	Glu	Gln	Asp	Leu	
				290					295					300		
Cys	Arg	Thr	Gly	Val	Leu	Leu	Pro	Ser	Ser	Pro	Glu	Ala	Glu	Val	Pro	
				305					310					315		
Gly	Lys	Leu	Ser	Pro	Lys	Gln	Ser	Ala	Thr	Met	Pro	Lys	Lys	Gly	Ile	
				325					330					335		
Leu	Lys	Lys	Thr	Gln	Gln	Arg	Glu	Ser	Gly	Tyr	Tyr	Ser	Ser	Pro	Glu	
				340					345					350		
Arg	Ser	Glu	Ser	Ser	Glu	Leu	Leu	Asp	Ser	Asn	Asp	Val	Met	Gly	Ser	
				355					360					365		
Ser	Ile	Pro	Ser	Pro	Ser	Pro	Pro	Asp	Pro	Ala	Arg	Val	Thr	Ser	His	
				370					375					380		
Ser	Leu	Ser	Cys	Arg	Arg	Lys	Gly	Ile	Leu	Lys	His	Ser	Ser	Lys	Tyr	

385					390					395					400
Ser	Ala	Gly	Thr	Met	Asp	Pro	Ala	Leu	Val	Ser	Arg	Glu	Met	Pro	Thr
				405					410					415	
Leu	Glu	Ser	Leu	Ser	Glu	Pro	Gly	Val	Pro	Ala	Glu	Gly	Leu	Ser	Arg
			420					425					430		
Ser	Tyr	Ser	Arg	Pro	Ser	Ser	Val	Ile	Ser	Asp	Asp	Ser	Val	Leu	Ser
		435					440					445			
Ser	Asp	Ser	Phe	Asp	Leu	Leu	Asp	Leu	Gln	Glu	Asn	Arg	Pro	Ala	Arg
	450					455					460				
Gln	Arg	Ile	Arg	Ser	Cys	Val	Ser	Ala	Glu	Asn	Phe	Leu	Gln	Ile	Gln
465					470					475					480
Asp	Phe	Glu	Gly	Leu	Gln	Asn	Arg	Pro	Arg	Pro	Gln	Tyr	Leu	Lys	Arg
				485					490					495	
Tyr	Arg	Asn	Arg	Leu	Ala	Asp	Ser	Ser	Phe	Ser	Leu	Leu	Thr	Asp	Met
			500					505					510		
Asp	Asp	Val	Thr	Gln	Val	Tyr	Lys	Gln	Ala	Leu	Glu	Ile	Cys	Ser	Lys
		515					520					525			
Leu	Asn														
	530														
<210>	21														
<211>	728														
<212>	PRT														
<213>	Homo sapiens														
<400>	21														
Met	Leu	Arg	His	Leu	Arg	Ala	Thr	Asp	Ala	Met	Lys	Asn	Phe	Ser	Glu
1				5					10					15	
Phe	Arg	Gln	Glu	Ala	Ser	Met	Leu	His	Ala	Leu	Gln	His	Pro	Cys	Ile
			20					25					30		
Val	Ala	Leu	Ile	Gly	Ile	Ser	Ile	His	Pro	Leu	Cys	Phe	Ala	Leu	Glu
		35					40					45			
Leu	Ala	Pro	Leu	Ser	Ser	Leu	Asn	Thr	Val	Leu	Ser	Glu	Asn	Ala	Arg
	50					55					60				
Asp	Ser	Ser	Phe	Ile	Pro	Leu	Gly	His	Met	Leu	Thr	Gln	Lys	Ile	Ala
65					70					75					80
Tyr	Gln	Ile	Ala	Ser	Gly	Leu	Ala	Tyr	Leu	His	Lys	Lys	Asn	Ile	Ile
				85					90					95	
Phe	Cys	Asp	Leu	Lys	Ser	Asp	Asn	Ile	Leu	Val	Trp	Ser	Leu	Asp	Val
			100					105					110		
Lys	Glu	His	Ile	Asn	Ile	Lys	Leu	Ser	Asp	Tyr	Gly	Ile	Ser	Arg	Glu

115	120	125
Ser Phe His Glu Gly Ala Leu Gly Val Glu Gly Thr Pro Gly Tyr Gln		
130	135	140
Ala Pro Glu Ile Arg Pro Arg Ile Val Tyr Asp Glu Lys Val Asp Met		
145	150	155
Phe Ser Tyr Gly Met Val Leu Tyr Glu Leu Leu Ser Gly Gln Arg Pro		
	165	170
		175
Ala Leu Gly His His Gln Leu Gln Ile Ala Lys Lys Leu Ser Lys Gly		
	180	185
		190
Ile Arg Pro Val Leu Gly Gln Pro Glu Glu Val Gln Phe Arg Arg Leu		
	195	200
		205
Gln Ala Leu Met Met Glu Cys Trp Asp Thr Lys Pro Glu Lys Arg Pro		
	210	215
		220
Leu Ala Leu Ser Val Val Ser Gln Met Lys Asp Pro Thr Phe Ala Thr		
225	230	235
		240
Phe Met Tyr Glu Leu Cys Cys Gly Lys Gln Thr Ala Phe Phe Ser Ser		
	245	250
		255
Gln Gly Gln Glu Tyr Thr Val Val Phe Trp Asp Gly Lys Glu Glu Ser		
	260	265
		270
Arg Asn Tyr Thr Val Val Asn Thr Glu Lys Gly Leu Met Glu Val Gln		
	275	280
		285
Arg Met Cys Cys Pro Gly Met Lys Val Ser Cys Gln Leu Gln Val Gln		
	290	295
		300
Arg Ser Leu Trp Thr Ala Thr Glu Asp Gln Lys Ile Tyr Ile Tyr Thr		
305	310	315
		320
Leu Lys Gly Met Cys Pro Leu Asn Thr Pro Gln Gln Ala Leu Asp Thr		
	325	330
		335
Pro Ala Val Val Thr Cys Phe Leu Ala Val Pro Val Ile Lys Lys Asn		
	340	345
		350
Ser Tyr Leu Val Leu Ala Gly Leu Ala Asp Gly Leu Val Ala Val Phe		
	355	360
		365
Pro Val Val Arg Gly Thr Pro Lys Asp Ser Cys Ser Tyr Leu Cys Ser		
	370	375
		380
His Thr Ala Asn Arg Ser Lys Phe Ser Ile Ala Asp Glu Asp Ala Arg		
385	390	395
		400
Gln Asn Pro Tyr Pro Val Lys Ala Met Glu Val Val Asn Ser Gly Ser		
	405	410
		415
Glu Val Trp Tyr Ser Asn Gly Pro Gly Leu Leu Val Ile Asp Cys Ala		
	420	425
		430



Ser	Leu	Glu	Ile	Cys	Arg	Arg	Leu	Glu	Pro	Tyr	Met	Ala	Pro	Ser	Met		
435							440						445				
Val	Thr	Ser	Val	Val	Cys	Ser	Ser	Glu	Gly	Arg	Gly	Glu	Glu	Val	Val		
450							455						460				
Trp	Cys	Leu	Asp	Asp	Lys	Ala	Asn	Ser	Leu	Val	Met	Tyr	His	Ser	Thr		
465							470									480	
Thr	Tyr	Gln	Leu	Cys	Ala	Arg	Tyr	Phe	Cys	Gly	Val	Pro	Ser	Pro	Leu		
							485									495	
Arg	Asp	Met	Phe	Pro	Val	Arg	Pro	Leu	Asp	Thr	Glu	Pro	Pro	Ala	Ala		
							500									510	
Ser	His	Thr	Ala	Asn	Pro	Lys	Val	Pro	Glu	Gly	Asp	Ser	Ile	Ala	Asp		
							515									520	
Val	Ser	Ile	Met	Tyr	Ser	Glu	Glu	Leu	Gly	Thr	Gln	Ile	Leu	Ile	His		
							530									540	
Gln	Glu	Ser	Leu	Thr	Asp	Tyr	Cys	Ser	Met	Ser	Ser	Tyr	Ser	Ser	Ser		
545							550									555	
Pro	Pro	Arg	Gln	Ala	Ala	Arg	Ser	Pro	Ser	Ser	Leu	Pro	Ser	Ser	Pro		
							565									575	
Ala	Ser	Ser	Ser	Ser	Val	Pro	Phe	Ser	Thr	Asp	Cys	Glu	Asp	Ser	Asp		
							580									590	
Met	Leu	His	Thr	Pro	Gly	Ala	Ala	Ser	Asp	Arg	Ser	Glu	His	Asp	Leu		
							595									600	
Thr	Pro	Met	Asp	Gly	Glu	Thr	Phe	Ser	Gln	His	Leu	Gln	Ala	Val	Lys		
							610									615	
Ile	Leu	Ala	Val	Arg	Asp	Leu	Ile	Trp	Val	Pro	Arg	Arg	Gly	Gly	Asp		
625							630									635	
Val	Ile	Val	Ile	Gly	Leu	Glu	Lys	Asp	Ser	Glu	Ala	Gln	Arg	Gly	Arg		
							645									650	
Val	Ile	Ala	Val	Leu	Lys	Ala	Arg	Glu	Leu	Thr	Pro	His	Gly	Val	Leu		
							660									665	
Val	Asp	Ala	Ala	Val	Val	Ala	Lys	Asp	Thr	Val	Val	Cys	Thr	Phe	Glu		
							675									680	
Asn	Glu	Asn	Thr	Glu	Trp	Cys	Leu	Ala	Val	Trp	Arg	Gly	Trp	Gly	Ala		
							690									695	
Arg	Glu	Phe	Asp	Ile	Phe	Tyr	Gln	Ser	Tyr	Glu	Glu	Leu	Gly	Arg	Leu		
705							710									715	
Glu	Ala	Cys	Thr	Arg	Lys	Arg	Arg										
							725										

<210> 22  
 <211> 253  
 <212> PRT  
 <213> Homo sapiens

<400> 22  
 Met Leu Leu His Thr Glu Tyr Ser Leu Leu Ser Leu Leu His Thr Gln  
   1                  5                  10                  15  
 Asp Gly Val Val His His His Gly Leu Phe Gln Asp Arg Thr Cys Glu  
                   20                  25                  30  
 Ile Val Glu Asp Thr Glu Ser Ser Arg Met Val Lys Lys Met Lys Lys  
           35                  40                  45  
 Arg Ile Cys Leu Val Leu Asp Cys Leu Cys Ala His Asp Phe Ser Asp  
       50                  55                  60  
 Lys Thr Ala Asp Leu Ile Asn Leu Gln His Tyr Val Ile Lys Glu Lys  
   65                  70                  75                  80  
 Arg Leu Ser Glu Arg Glu Thr Val Val Ile Phe Tyr Asp Val Val Arg  
                   85                  90                  95  
 Val Val Glu Ala Leu His Gln Lys Asn Ile Val His Arg Asp Leu Lys  
           100                  105                  110  
 Leu Gly Asn Met Val Leu Asn Lys Arg Thr His Arg Ile Thr Ile Thr  
           115                  120                  125  
 Asn Phe Cys Leu Gly Lys His Leu Val Ser Glu Gly Asp Leu Leu Lys  
       130                  135                  140  
 Asp Gln Arg Gly Ser Pro Ala Tyr Ile Ser Pro Asp Gly Ser Ala Ala  
   145                  150                  155                  160  
 Gly Arg Thr Val Ala Ser Pro Val Thr Cys Gly Pro Trp Ala Trp Cys  
           165                  170                  175  
 Ser Ser Pro Cys Cys Met Ala Ser Ser Pro Ser Thr Thr Ala Ser Arg  
           180                  185                  190  
 Arg Ser Ser Ser Ala Arg Ser Arg Leu Pro Ser Ile Pro Phe Leu Arg  
           195                  200                  205  
 Met Asp Gly Phe Leu Arg Thr Pro Cys Val Ser Ser Gly Ser Cys Trp  
       210                  215                  220  
 Ser Leu Thr Pro Ser Ser Ala Trp Pro Pro Pro Thr Ser Trp Arg Pro  
   225                  230                  235                  240  
 Ser Val Pro Ser Leu His His Gly Ser Pro Cys His Leu  
           245                  250

<210> 23  
 <211> 131

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<400> 24
Met Val Thr Leu Gly Ala Pro Pro Tyr Pro Glu Val Pro Pro Thr Ser
  1                               10                      15

Ile Leu Glu His Leu Gln Arg Arg Lys Ile Met Lys Arg Pro Ser Ser
      20                        25                      30

Cys Thr His Thr Met Tyr Ser Ile Met Lys Ser Cys Trp Arg Trp Arg
      35                        40                      45

Glu Ala Asp Arg Pro Ser Pro Arg Glu Leu Arg Leu Arg Leu Glu Ala
      50                        55                      60

Ala Ile Lys Thr Ala Asp Asp Glu Ala Val Leu Gln Val Pro Glu Leu
      65                        70                      75                      80

Val Val Pro Glu Leu Tyr Ala Ala Val Ala Gly Ile Arg Val Glu Ser
      85                        90                      95

Leu Phe Tyr Asn Tyr Ser Met Leu
      100

```

```

<400> 25
Met Thr Gln Glu Val Val Thr Gln Tyr Tyr Arg Ala Pro Glu Ile Leu
  1                               10                      15

Met Gly Ser Arg His Tyr Ser Asn Ala Ile Asp Ile Trp Ser Val Gly
      20                               25                      30

Cys Ile Phe Ala Glu Leu Leu Gly Arg Arg Ile Leu Phe Gln Ala Gln
      35                               40                      45

Ser Pro Ile Gln Gln Leu Asp Leu Ile Thr Asp Leu Leu Gly Thr Pro
  50                               55                      60

Ser Leu Glu Ala Met Arg Thr Ala Cys Glu Gly Ala Lys Ala His Ile
  65                               70                      75                      80

Leu Arg Gly Pro His Lys Gln Val Arg Gly Gly Gly Asn Leu Phe Leu
      85                               90                      95

Val Thr Ile Cys Leu Gly Lys Ile Ser Leu Pro Ile Glu
      100                               105

```

<400> 26																
Gly	Thr	Arg	Asp	Lys	Lys	Leu	Trp	Arg	Thr	Phe	Phe	Ile	Ser	Pro	Ala	
1				5					10					15		
Asn	Asn	Ile	Cys	Phe	Tyr	Gly	Glu	Cys	Ser	Tyr	Tyr	Cys	Ser	Thr	Glu	
			20					25					30			
His	Ala	Leu	Cys	Gly	Lys	Pro	Asp	Gln	Ile	Glu	Gly	Ser	Leu	Ala	Ala	
		35					40					45				
Phe	Leu	Pro	Asp	Leu	Ser	Leu	Ala	Lys	Arg	Lys	Thr	Trp	Arg	Asn	Pro	
	50						55				60					
Trp	Arg	Arg	Ser	Tyr	His	Lys	Arg	Lys	Lys	Ala	Glu	Trp	Glu	Val	Asp	
65					70					75					80	
Pro	Asp	Tyr	Cys	Glu	Glu	Val	Lys	Gln	Thr	Pro	Pro	Tyr	Asp	Ser	Ser	
				85					90					95		
His	Arg	Ile	Leu	Asp	Val	Met	Asp	Met	Thr	Ile	Phe	Asp	Phe	Leu	Met	
			100					105					110			
Gly	Asn	Met	Asp	Arg	His	His	Tyr	Glu	Thr	Phe	Glu	Lys	Phe	Gly	Asn	

```

<210> 27
<211> 70
<212> PRT
<213> Homo sapiens

<400> 27
Met Tyr Asn Ser Val Lys Gly Ser Cys Ser Glu Pro Val Ser Phe Thr
 1             5             10             15
Thr His Ser Cys Ala Pro Glu Cys Pro Phe Pro Pro Lys Leu Ala His
          20             25             30
Arg Ser Lys Ser Ser Leu Thr Leu Gln Trp Lys Ala Pro Ile Asp Asn
      35             40             45
Gly Ser Lys Ile Thr Asn Tyr Leu Leu Glu Trp Asp Glu Val Ser Leu
 50             55             60
Phe Ser Tyr Ser Pro Ile
 65             70

```

```
<400> 28
Lys Ile Lys Thr Leu Gly Ile Gly Ala Phe Gly Glu Val Cys Leu
  1             5             10             15
```

```
<400> 29
Thr Ser Ser Ala Gly Asp Ser Glu Ala Thr Asp Arg Pro Arg Pro Gly
   1                               5               10             15

Asp Leu Cys Pro Pro Ser Lys Asp Gly Asp Ala Ser Gly Pro Arg Ala
          20                25              30

Thr Asn Asp Leu Val Leu Arg
      35
```

```
<400> 30
Val Ile Lys Ser Ala Ser Ala Thr Ala Leu Ser Val Met Ile Pro Ala
  1                               5               10               15
Val Asp Pro His Gly Ser Ser Pro Leu Ala Ser Pro Met Ser Pro Arg
                20                25                30
Ser Leu Ser Ser Asn Pro
      35
```

```

<400> 31
Arg Ser Thr Pro Asp Ser Ala Tyr Leu Gly Ala Ser Ser Gln Ser Ser
 1             5             10             15

Ser Pro Ala Ser Ser Thr Pro Asn Ser Pro Ala Ser Ser Ala
      20             25             30

```

<400> 32  
Gly Thr Ser Ile Leu Gly Pro Arg Leu Gly Asn Ser Pro Val Pro Ser  
1 5 10 15  
Ile Val Gln Cys Leu Ala Arg Lys Asp Gly Thr Asp Asp Phe Tyr Gln  
20 25 30

His